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In This Issue:
Drug Courts

JUDICIAL INDEPENDENCE IN THE THIRD MILLENNIUM

KBA Annual Convention 2000 Preview

Supreme Court Rules Issue

Drug Courts in the Commonwealth

Since becoming Chief Justice in October of 1998, I have participated in a number of drug court graduations. The first and perhaps most memorable was last summer. I say most memorable because there was only one graduate at that drug court graduation in Fulton County. The one graduate was a man in his forties with a wife and two children. Without giving too much detail, he was going nowhere except to jail. He risked losing his wife, children and all the things that meant the most to him. After some eighteen months in the drug court program, a useful life had been restored to him. He was working, he attended church, he supported his family, and he was generally a good citizen. When I describe that first drug court graduation, I often use the term "moving" because it was indeed one of the most moving ceremonies I have ever witnessed.

As Chief Justice, I have undertaken, with the help of the Governor of Kentucky, the General Assembly, and the Governor's Executive Cabinets, to expand drug courts statewide. The second chance that was given to the gentleman in Fulton County and the second chance that has been given to hundreds of other Kentucky citizens should be available to all of our citizens who qualify for the program. Let no one suspect that drug court is merely a "Get Out of Jail Free" card. Drug court is not available to all drug offenders. Some drug offenders need to go to prison, but some do not. There is nothing easy about drug court. It consists of intensive testing to make sure the participant remains drug free. It also consists of counseling, supervision, required employment, support of families, and in general, an honorable lifestyle. If a participant fails to meet the requirements, he will be washed out and the punishment provided by law fully imposed. Nothing is lost by giving some drug offenders the drug court opportunity, but if a participant completes the program and graduates, a life will have been restored.

Drug court is often thought of as a form of therapeutic justice. One of my friends, the Chief Justice of New Hampshire, says we have entered the era of therapeutic justice. This concept recognizes that proper justice consists of more than merely locking people away. It's broader than that. Justice consists of tailoring the punishment to fit the crime and the offender. It also recognizes that society has a stake in the outcome. Drug offenders who go to jail will, in time, be released. Without help, most return to the drug lifestyle and the process begins all over again. Drug court provides an opportunity for offenders to be restored to productive, tax-paying, family-supporting lives and it also saves the taxpayers of this State the cost of incarceration and the cost of recidivism.

CHIEF JUSTICE JOSEPH E. LAMBERT

Kentucky Drug Courts

Court Supervision of a Drug Treatment Program

By Honorable Mary C. Noble & Connie Reed, MSW

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Since the mid 1980's, court dockets across the nation have become overloaded with drug cases or drug-involved offenders, leaving fewer resources available for more serious, violent offenders. In the ensuing years it has become clear that (1) incarceration does very little to break the cycle of illegal drug use followed by crime; (2) incarcerated offenders exhibit a high rate of recidivism; and (3) drug abuse treatment is very effective in reducing both drug addiction and drug-related crime. In an attempt to find more productive strategies, the Miami, Florida courts, led by Janet Reno (then a local prosecutor) and Timothy Murray, developed a program where defendants who had a history of drug abuse were provided treatment, frequent contact with their judge, and drug testing. This program was so successful that it became a prototype for the nation, known as Drug Courts.

Drug Court is court supervision of a drug treatment program, adding enforcement to treatment to create an effective tool for rehabilitation. While all parts of a Drug Court program have long existed separately in the criminal justice system, this program is the first method of bringing all the elements together for more effective coordination. Interdisciplinary cooperation is essential to the success of the program and involves several agencies, including the judiciary, the Administrative Office of the Courts, Probation and Parole, treatment providers, and the police. Any successful program must also have the support of the local community. For this reason, while there are key components which all Drug Court programs must have, the programs must be designed on a local option basis to adjust to the resources and attitude of a particular community.

The guiding component of Drug Courts is the recognition that incarceration of individuals for their drug-abusing lifestyles will only remove them from their environments for limited periods of time. Without providing treatment, education, and life skills training, these individuals are likely to return to the same destructive cycle. In 1998, Kentucky's institutions housed 14,839 inmates at an average cost of $14,691 per person. Drug Courts provide alternative services for about 10% to 15% of that cost, stop drug abuse and related criminal activity, and break the cycle of addiction that runs through families.

Drug Courts also feature several other key components. They include:

- mandatory alcohol and drug treatment (including evenings and weekends)
- a team approach with prosecutors and defense attorneys working to protect the participants' rights and promote public safety in a non-adversarial manner
- participants assessed and screened earlier so treatment can begin sooner
- a continuum of alcohol, drug and other treatment/rehabilitation services
- frequent and random drug and alcohol testing
- a phasic program with at least three phases or levels of treatment and supervision
- sanctions for noncompliance and possible incentives for compliance
- participants reviewed by the judge weekly in Phase I, bi-weekly in Phase II and once every three weeks in Phase III
- on-going program evaluations and collection of monthly/quarterly statistics
- continuous local, state and national training for

the Drug Court team

partnerships with other public agencies to generate local support and enhance effectiveness.

THE FAYETTE COUNTY DRUG COURT MODEL

Given these key components, and recognizing that each Drug Court may vary slightly, the following is an example of how a person is admitted to drug court based upon Fayette County's model.

Participants enter the program through probation referrals or diversion recommendations. Eligible defendants are identified early in the process based on the nature of current charges. The program is explained to the defendant and the criminal defense attorney. If the defendant is interested in the program, a criminal history is obtained to confirm that there are no prior convictions for crimes of violence. A clinical assessment is conducted and a urine screen is done. If a defendant assesses as program qualified, the defendant is assigned to a Drug Court judge, who will have continued jurisdiction over the case. If the defendant successfully completes the program, the diverted charges will be dismissed, and the probated charge will be conditionally discharged. These outcomes provide a powerful incentive for a defendant to complete the program.

The program is rigorous. All participants are given a weekly calendar when they go to Drug Court. This calendar sets forth events and activities the participant is required to complete during that week, such as scheduled treatment meetings, daily journal topics, court appearances, and reporting instructions. Participants must call every day to see if they are to be drug screened that day, write in their journal each day, attend NA or AA meetings a set number of times per week and pay all fines, fees, and restitutions. Case Specialists individualize the calendars. All participants *must* have employment or be enrolled in a full-time educational program, unless medically excused. Periods of unemployment require a minimum of 20 hours of community service per week. As they progress through the program, more activities are added and supervision is decreased in order to allow the participant to blend into a permanent drug-free lifestyle.

To most addicted persons, the demands of the program are extremely difficult, but they are in fact no more than what is required of daily drug-free, crime-free living. Nonetheless, a relatively high percentage of participants will not be able to complete the program. This is not perceived as a program failure, but is rather recognized as evidence that drug-addicted defendants fall into three categories:

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STARTING A DRUG COURT

By Lisa Minton

The Drug Courts division of the Administrative Office of the Courts (AOC) was established in 1996 to assist jurisdictions in planning, implementing, and enhancing drug courts. Under the direction of Chief Justice Joseph E. Lambert and Director Cicely Jaracz Lambert, AOC provides fiscal and management oversight to all Kentucky drug court sites; however, each drug court is a grassroots effort. The Judge leads a team of local criminal justice officials, treatment and service providers, and community representatives to develop a program that works in that particular jurisdiction. This allows for adaptation of the basic drug court structure to meet local needs and resources to respond to those drug cases where substance abuse treatment combined with closely monitored supervision is a safe and effective alternative to incarceration.

Kentucky currently has five *operational* sites:

(1) Jefferson County (a National Mentor Training Site);
(2) Fayette County (a National Mentor Training Site);
(3) Warren County;
(4) Northern Kentucky (Kenton/Campbell Counties); and
(5) the First Judicial Circuit (Carlisle/ Ballard/Fulton/ Hickman Counties).

Kentucky also currently has five *juvenile* Drug Court sites:

(1) Jefferson County;
(2) Fayette County;
(3) Northern Kentucky;
(4) Christian County; and
(5) Whitley County.

Finally, there are currently eight areas of the state in the *planning/pilot phase* of establishing a Drug Court:

(1) Daviess County;
(2) Hardin County;
(3) Shelby County;
(4) Clark/Madison Counties;
(5) Clinton/Wayne/Russell Counties;
(6) Bourbon/Scott/Woodford Counties;
(7) Laurel/Knox Counties; and
(8) Lewis/Greenup Counties.

Drug Court programs are funded through grants provided by various agencies and offices, including the Kentucky Justice Cabinet, the Department of Juvenile Justice, and the Office of Justice Programs, Drug Courts Program Office. In-kind contributions and AOC general fund monies are also used as matching funds for the grants.

The first step in establishing a drug court in your community is to assess local need and interest. The Kentucky Administrative Office of the Courts will assist in applying for grants on behalf of your jurisdiction. Most grants are rated by peer reviewers and awarded on a competitive basis. The grants enable the drug court team to begin to undertake a relevant needs assessment, which identifies characteristics of their drug caseload, offender population, and treatment

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options. The team will attend state and national trainings, visit other drug court sites, and plan and/or pilot a program.

National data measuring drug court outcomes is available and proves that drug courts work. In addition, Kentucky's AOC has also been striving to ensure consistently operated programs and to evaluate program impact and effectiveness through statewide uniform data collection and reporting efforts. Through a technical assistance grant from the State Justice Institute, the Administrative Office of the Courts in conjunction with the Center on Drug and Alcohol Research at the University of Kentucky recently completed a statewide needs assessment by county. The Center also works with AOC to conduct process and outcome evaluations of the drug court sites and to design an automated management information system. The Center was recently awarded a $1.9 million, five-year grant from the National Institute on Drug Abuse to implement an enhanced intervention for drug court participants. This research grant will focus on employment of drug court participants to evaluate the effectiveness of employment in reducing recidivism, drug use, and criminal behavior. AOC has also received a grant from the Kentucky Incentive Prevention Project, the Governor's youth substance abuse prevention initiative, funded through the Center for Substance Abuse Prevention. This youth grant uses *Strengthening Families*, a science-based prevention program that targets offenders and their children to increase life skills and break the cycle of addiction.

The National Association of Drug Court Professionals and the Training and Technical Assistance Division, Office of Community Oriented Policing Services, U.S. Department of Justice will conduct a regional training on developing linkages between drug courts and law enforcement. The workshop is scheduled for April 9-10, 2000, in Lexington, Kentucky, and will focus on collaboration among agencies to hold offenders more accountable and make communities safer.

AOC employs drug court field staff to provide technical assistance to drug court programs on a statewide basis.

To attend the April training, schedule a visit of a drug court site, or apply for a drug court grant, please contact: Lisa Minton, Drug Courts Manager, Administrative Office of the Courts, 149 N. Limestone St., Lexington, KY 40507, (606) 246-2501.

Lisa Minton was appointed manager of the Drug Courts division of the Administrative Office of the Courts when the division was established July 1, 1996. Prior to that, she was a field supervisor for Pretrial Services, an AOC statewide program. She has also managed an adult literacy program and taught GED classes in rural Kentucky. She oversees the five operational and eight planning adult drug court sites, and five juvenile drug court sites. The Fayette and Jefferson Drug Courts are National Mentor training sites. Lisa has been a speaker at a wide array of state and national training sessions, and chairs the Champions Comprehensive Drug Strategy Coordination Committee.

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(1) those who have minor drug use problems and can successfully complete ordinary probation requirements;
(2) those who are too addicted to function successfully in an outpatient program such as Drug Court and must be incarcerated for their own and the public's safety; and
(3) those who have serious addiction problems and are amenable to outpatient treatment. Participants are terminated from the program only when it is apparent that they cannot perform as an outpatient. The stringent program requirements will usually identify these defendants within a few months. It is important to recognize that while these defendants clearly need help, they are not appropriate for this particular program, and resources must be preserved for those who can benefit.

The program takes approximately two years to complete. Participants are making a significant time investment, often longer than a serve out of their sentences. However, the program offers many things to the participant that a prison term would not. Those who complete the program obviously consider the benefits to be greater than the mere passage of time. Services are provided by in-house staff workers as well as through contracted services with local mental health facilities, health departments, vocational rehabilitation and other state and local agencies. The program is performance-based with measurable expectations and accountability through a sanction system ranging from community service to jail detention for several days.

PROGRAM DEVELOPMENT

On July 1, 1996, the Administrative Office of the Courts (AOC) received funding from the General Assembly for the establishment of Fayette County Drug Court. Other Drug Court sites have been added and are administered through AOC in conjunction with local Drug Court committees and judges. The state appropriation is used as a 25% cash match to apply for grant monies. The Kentucky Justice Cabinet approved $690,166 for fiscal year 1998-99 (third-year application) and $788,949 for fiscal year 1999-2000 (fourth-year application) under the provisions of the Narcotics Control Assistance Program to fund the Regional Drug Court for five sites:

- Jefferson (1993) — District Judge Henry Weber
- Fayette (1996) — Circuit Judges Mary Noble, Sheila Isaac, and Lewis Paisley; District Judge Maria Ransdell
- Warren (1997) — Circuit Judges John Minton and Tom Lewis

- Kenton (1998) Circuit Judge Greg Bartlett
- Campbell (1998) Circuit Judge Willliam Wehr

In addition, the Office of Justice Programs, Drug Courts Program Office has funded a two-year implementation grant totaling $262,064 for The First Judicial Circuit:

- Fulton/Hickman/Carlisle/Ballard:
District Judges Keith Myers and Hunter Whitsel

Other grants totaling $303,522 provided through the Office of Justice Programs, Drug Courts Program Office have funded the following additional planning sites:

- Bourbon/Scott/Woodford
- Clinton/Wayne/Russell
- Knox/Laurel
- Clark/Madison
- Daviess
- Hardin
- Shelby
- Kenton
- Fayette District-Juvenile
- Campbell/Boone/Gallatin-Juvenile

Lewis and Greenup Counties, with Circuit Judge Lewis Nicholls presiding, also have a Drug Court in the planning stages with funding provided from various sources.

The Kentucky Department of Juvenile Justice has provided $253,075 total funding for the following Juvenile Drug Court sites:

- Christian District Judge James Adams
- Campbell District Judge D. Michael Foellger
- Whitley District Judges David Burton and Kimberly Frost Wilson

Kentucky Drug Courts have also received funding for enhancement grants through the Office of Justice Programs, Drug Courts Program Office, to implement a statewide Management Information System and to conduct Statewide Evaluations.

Several other jurisdictions across Kentucky have also expressed an interest in applying for planning grants for the upcoming year.

PROGRAM STATISTICS

The first drug court was established in Jefferson County in 1993. Fayette County began its program in 1996, followed by Warren County in 1997. Statistics since fiscal year 1996-97 reveal the following:

	Jefferson Co.	Fayette Co.	Warren Co.
1996-97			
	185 participated	105 accepted	42 accepted
	42 graduated	no graduates (start up year for both)	
1997-98			
	218 accepted	203 accepted	75 accepted
	45 graduated	42 graduated	14 graduated
1998-99			
	137 accepted	120 accepted	100 accepted
	60 graduated	55 graduated	44 graduated

The newer Drug Court programs report the following data:

	Fulton Co.	Kenton Co.	Campbell Co.
1997-98			
	16 accepted	9 accepted	start-up year
1998-99			
	12 accepted	35 accepted	12 accepted
	No graduation yet	6 graduated	No graduation yet

The Fayette program (for which these authors have more detailed working knowledge) has had remarkable success. The Fayette Drug Court held its first session on August 16, 1996. Since that time, 351 participants have been treated. On September 16, 1999, Fayette held its eighth graduation, bringing the total number of program graduates to 97. Of those 97 graduates, 5 have been arrested for a subsequent felony offense and 9 others have been arrested for misdemeanor offenses. Given the population, these numbers are extraordinary. They are far less than the recidivism rate for this population after incarceration, which ranges as high as 60%.

During fiscal year 1998-99, Fayette Drug Court treated 199 active participants. Of those participants, 173 were employed full-time, 9 part-time, and 22 were enrolled in some type of educational program — either high school, college, vocational school, or GED classes. (Some of those enrolled in educational programs were also working full or part-time). Prior to entering the program, only 43 had full-time employment and only 4 were in educational programs. During this time, 10 drug-free babies were born and 12 participants regained custody of minor children who had been removed by the Cabinet for Families and Children. Frequent and random urine testing indicated that at the end of fiscal year 1998-99, of the 8,717 urine screens done, only 3.65% tested positive. *continued*

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STRENGTHENING FAMILIES

Literature indicates that family is one factor related to being at risk for substance abuse. Children with unstable living environments, either because of parental substance abuse and/or criminal justice involvement are at high risk of engaging in these behaviors themselves. The children of Drug Curt participants are doubly at risk due to their parents being both drug abusers and having convictions.

Fayette, Jefferson, and Warren Drug Courts have received prevention grants through the Kentucky Incentive Project to establish a Strengthening Families Program. This program will use a family prevention program with proven success in a variety of different populations in order to target 9 to14-year-old children of Drug Court participants. This intervention will help:

(1) prevent initiation of alcohol, tobacco and marijuana use for those who have not begun to use;
(2) reduce use among users;
(3) produce positive attitudes toward abstinence from substance abuse; and
(4) reduce significant family risk factors, thereby stopping the cycle of addiction and related criminal activity.

MENTOR COURTS

During the annual conference of the National Association of Drug Court Professionals (NADCP) held in May, 1998, Kentucky Drug Courts received national recognition. The NADCP named the Fayette Drug Court a NADCP/COPS (Community Oriented Policing Services) mentor training site until the year 2000. The mentor program recognizes the importance of a unified system involving drug courts and local law enforcement. The Lexington-Fayette Urban County Government Division of Police has been recognized as an outstanding force on national ratings, and has been fully supportive of Fayette Drug Court by, among other things, assigning a liaison officer, making home visits with case specialists, hosting mentor trainees from various states, and aiding with alcohol testing. This strong law enforcement support of the drug court program has been a major factor in its success in Fayette County.

The Jefferson Drug Court Program was named a Mentor Drug Court for a second term at the annual conference. The Mentor Drug Court Network is based on the premise that local drug courts are the most logical place to educate and train court practitioners. Both Fayette and Jefferson Drug Courts have hosted national training sessions for the grantees of the Office of Justice Program's planning and implementation grants.

CONCLUSION

The benefits to society from Drug Court programs are numerous and far-reaching. Personal, financial and societal areas are affected, since these participants are paying restitution, child support, taxes and are not taking up prison beds needed for violent offenders. By offering these participants a chance to make positive, life-long changes in their lifestyles, drug courts affect change in the population most frequently involved with the criminal justice system. This is undeniably a positive use of public resources and the enforcement powers of the courts.

Judge Mary C. Noble is the Chief Judge of the Fayette Circuit Court. She obtained a bachelor's degree in English from Austin Peay State University in 1971 and a master's degree in psychology in 1975. She received her J.D. from the University of Kentucky College of Law in 1981. Judge Noble has been a speaker on a wide array of topics, and has served as Chair of the statewide Gender Fairness in the Courts Committee, on the state Civil Rules Committee, the Attorney General's Task Force on Prescription Drug Abuse, the Executive Branch Committee for a Collaborative Approach to Substance Abuse, and the Juvenile Justice Advisory Board, a statutory committee charged with overseeing juvenile justice reform. As a practitioner, Judge Noble was a litigation attorney, practicing the areas of school law, personal injury and criminal law. She has done both defense and plaintiff representation. Prior to her election as circuit judge in 1992, she served as a Domestic Relations Commissioner for Fayette Circuit Court.

Connie Reed is the Treatment Coordinator for the Fayette Drug Court. She is responsible for completing assessments on potential clients, maintaining contact with judges, prosecutors, and defense attorneys, and conducting group, family, and individual counseling, along with maintaining statistics and administrative duties. Connie has been with the Fayette Drug Court since its inception. Prior to working with Drug Court, she worked ten years in the field of Social Work with court-committed juveniles, adult and child sexual abuse victims, and the dually diagnosed mentally ill. Connie is a national trainer/speaker for the Office of Justice Programs, Drug Courts Program Office and the Justice Management Institute for drug courts. She earned her BSW from Morehead State University and her Masters Degree from the University of Kentucky.

Chemical Dependency Treatment In Kentucky

By Michael Townsend

Any effective long-term change in chemical dependency and its social impact requires a multifaceted approach. Collaborative efforts between the treatment system, the criminal justice system, and the social welfare system are critical. This article focuses on the treatment area, including the current approach for drug treatment in Kentucky, the present effectiveness of this treatment, and future trends for successful drug treatment.

Introduction

The social, legal, health care and employment costs related to drug and alcohol abuse and addiction have been well documented in the media over the past few years. Over 36% of all arrests in Kentucky are directly related to violation of drug and alcohol laws.[1] Fifty-nine percent (59%) of our incarcerated offenders in Kentucky prisons are dependent on alcohol or drugs. Approximately 50% of our child abuse and neglect cases in Kentucky are related to alcohol or drug abuse and 50% to 80% of out-of-home placements for children who are abused or neglected are a result of abuse or dependency of substances in the parental home.[2] Approximately 30,000 arrests are made each year for driving under the influence. Teen violence, one of the major issues on the current radar screen of the public, is very closely related and influenced by teen alcohol and drug abuse.[3]

In the health care arena, Kentucky surveys have shown that about one in every ten babies born in Kentucky is affected by alcohol or illegal drugs at the time of birth. Fetal Alcohol Syndrome, a consequence of abuse of alcohol during pregnancy, is the leading cause of preventable mental retardation.[4] While the problems associated with drug and alcohol dependency are enormous, Kentucky has developed a network of resources available for treatment of chemical dependency. Over the past 25 years, Kentucky has built a system of community-based substance abuse treatment services that are available to all Kentuckians. This system of community-based substance abuse treatment, operated through a network of 14 mental health and mental retardation boards and their affiliate agencies, provides outpatient counseling, detoxification, residential treatment services, and aftercare to citizens throughout Kentucky. In 1998, over 35,000 persons with substance abuse problems were treated through these agencies and their affiliate boards.[5]

Alternatives to Hospitalization

While some chemically-dependent patients require brief hospital stays, the majority of persons dependent on alcohol and drugs can safely detoxify in a non-hospital setting. These non-hospital and residential settings are the backbone of Kentucky's chemical dependency treatment system and serve to provide a lower cost alternative to hospitalization for substance abuse. The removal of alcohol or illegal drugs from the person's body is the first step in the recovery process. This detox phase can often be accomplished in three to five days and is critical before a plan of long-term recovery can be initiated.

After detox is accomplished, the client can be assessed for degree of impairment, taking into consideration the client's lifetime history of chemical use, family history of alcohol or drug use, emotional stability, social and employment needs, and health care needs. At this phase of treatment, a plan for long-term recovery from alcohol and drug abuse can be developed by the chemical dependency treatment professional and the client. The majority of persons recovering from chemical dependency can develop a long-term program of recovery on an outpatient basis. These clients usually have a job skill, a family or living situation that supports their recovery, and motivation to attend self-help programs in their community. Self-help programs cannot be over emphasized. Long-term recovery from alcohol and drug dependency is a lifetime process. Treatment is usually short-term. For most persons the length of substance abuse treatment is one year or less. Treatment is designed to help break the cycle of continued dependence on alcohol and drugs. While treatment of drug and alcohol dependency is much like treatment for other chronic, lifestyle-related diseases (e.g., diabetes, heart disease, cancer), the goal of drug treatment is to empower the client to take ownership of the client's life and to develop a more healthy lifestyle that supports the client's long-term recovery, health, and social stability.

The first and most important phase of a positive treatment experience is for the chemically-dependent client to accept that the chemicals are controlling the client's life. This is one of the most difficult aspects of chemical dependency for a person to accept. Since denial, pride and ego are so dominant in the alcoholic and drug addict's life, it is difficult for the addict to accept that the addict is not in control of the drug. In fact, as long as the addict continues to use the drug, the drug will control. Self-help programs such as Alcoholics Anonymous and Narcotics Anonymous are often essential components for persons recovering from alcohol and drug dependence. While lifetime recovery can never be assured for anyone, the support system that self-help programs offer means that help in maintaining sobriety brought about through the treatment experience is available to everyone and in virtually every community in Kentucky.

For persons who continue to relapse into drug and alcohol use while attending outpatient treatment, a more intensive treatment experience may be necessary. Residential treatment or halfway houses are often critical components of treatment for persons who continue to drink or use drugs. Again, the assessment of the client's degree of impairment at the beginning of treatment can be very important in supporting long-term changes in chemical dependency treatment.

Kentucky is fortunate to have residential treatment programs in almost every region of the state.[6] These residential programs range from short-term programs (two weeks) to long-term programs (six to nine months). These residential treatment facilities provide the recovering addict or alcoholic an opportunity to retreat temporarily from the environment where drugs and alcohol are so readily available. The residential programs also help the client to begin the health, emotional, and spiritual aspects of the recovery process. The residential component provides both a temporary respite as well as the stabilization and support of professionals. Involvement with other clients struggling with their own disease of chemical dependency is also an important part of the recovery process. The mutual support and therapeutic environment provided in a long-term residential treatment program is often essential to the chemically dependent person's long-term sobriety and drug-free lifestyle.

Kentucky is also fortunate to have several specialized residential treatment programs aimed at chemically dependent women who are pregnant, as well as women with dependent children. These programs, operating in Louisville, Lexington, Covington, and Corbin, provide long-term recovery and rehabilitation. Additionally, long-term residential chemical dependency treatment services for adolescents are offered in Louisville, Hopkinsville, and Mount Sterling.

Treatment Outcomes

How effective is treatment for chemical dependency in Kentucky? The answer, based on a recent independent study conducted during 1998 by the University of Kentucky Center on Drug and Alcohol Research, is that treatment is having a positive effect on many people. This research, the Kentucky Treatment Outcome Study, focuses on clients served in all publicly-supported chemical dependency treatment centers operating in the Commonwealth. Four hundred sixty (460) clients completing chemical dependency treatment were contacted for this survey.

The study sets a baseline by measuring, at the time treatment is initiated, the client's use of alcohol and drugs, involvement in the criminal justice system, health status, employment status, and social stability. This baseline data provides clues about the client's behavior as well as costs to society before treatment is initiated. A second measure of the client's behavior and lifestyle changes is taken one year after treatment is terminated. The changes between pre-treatment behavior and one year post-treatment are then compared and

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analyzed. The changes are encouraging, if not remarkable.

Percentage Reductions in...

Substance Use and Abuse

Daily opiate use	90%
Daily cocaine use	91%
Daily crack use	78%
Daily alcohol use	55%
Daily marijuana use	63%

Self-Reported Criminal Behavior

Arrests Overall	56%
Drug trafficking arrests	85%
DUI arrests	66%
Arrests for crimes against others	74%

Improvements:

Behavior Related

Decrease in unemployment	55%
Increase in full-time work	39%
Increase in average monthly family income (from $1,457 to $2,653)	82%

Emotional/Mental Health Related

Reduced difficulty in controlling violent impulses	29%
Reduced serious depression	30%
Reduced suicide thoughts	57%
Reduced suicide attempts	72%

Cost Benefit Estimates

A cost-benefit ratio of 1:8 is estimated. That is, for every $1 spent on treatment in this sample, the overall tax burden is reduced by $8. Providing treatment services to alcohol and drug abusers reduces the tax burden on citizens in Kentucky an estimated $160 million per year.

Future Directions for Effective Long-Term Drug Treatment in Kentucky

The Kentucky Treatment Outcome Study demonstrates that treatment is having a positive influence on many people. While the results are encouraging, with continued collaboration between the treatment system, the criminal justice system, and the social welfare system, even greater success is possible.

Drug and alcohol-dependent persons rarely decide to initiate recovery without outside forces impinging upon them. Families exert pressure on the abuser, employers exert pressure on employees through threats of unemployment, and courts can play a critical role in motivating clients to change their lifestyles. The goal of treatment and recovery is to help the drug-dependent person face external consequences (e.g., potential break-up of a family, unemployment or incarceration) and become motivated to stay drug free and sober through internal motivation.

Future reduction of drug dependency will be more likely with continued and further involvement of the courts in the recovery process. The external motivation that courts bring to the individual's life can be a major motivator in returning the chemically-dependent client to a lifetime of recovery. As most recovering addicts will readily admit, they often see their recovery as a miracle. Often that miracle is helped along by courts that provide the opportunity for the addict to become self-motivated and to live a life free of alcohol and drug dependency. Drug Courts can play a vital role in this opportunity for developing this internal control. Drug Courts recognize that chemical dependency is a progressive illness that eventually results in death, incarceration or recovery. By providing a highly structured setting that involves treatment, drug testing, vocational and educational support, along with a carefully orchestrated series of incentives (for positive behavior) and consequences (for negative behavior), clients can learn a new set of skills for turning their lives around. Choices and consequences are the way all of us learn. When behavior is positive and valued by society we are rewarded. When negative behavior is detected we are held accountable. It is that simple. The "tough love" offered in Drug Court is tempered by the enforced consequences that occur when persons given an opportunity for rehabilitation do not heed the courts' requirements for accountability.

While no Drug Court can ever guarantee lifetime freedom from drug addiction, Drug Court can provide an opportunity for persons to develop internal motivation skills necessary for an addict to gain sobriety and become a productive member of society. The marriage between the judicial system and the chemical dependency treatment system through Drug Courts is a win-win proposition for Kentucky. Providing rehabilitation to nonviolent addicts in lieu of incarceration is not only a cost-saving measure for taxpayers, but is the right thing to do because it generates a productive citizen while lessening the burden to society as a whole.

ENDNOTES

1. Crime in Kentucky, Kentucky State Police, 1996.
2. Kentucky Cabinet for Families and Children, 1999.
3. Center for Substance Abuse Prevention, Prevention Works Fact Sheet 1999.
4. National Institute on Alcoholism and Alcohol Abuse, Alcohol Alert No.13PH-297, 1991.
5. Kentucky Department for Mental Health and Mental Retardation Services, Research and Data Management, 1999.
6. See statewide current program listing on page 17.

Michael Townsend has served in his current capacity as Director of the Division of Substance Abuse for Kentucky's

Department for Mental Health and Mental Retardation Services since 1984. He is past chair of the Southeastern Conference of Alcohol and Drug Program Directors and recent chair of Kentucky's Substance Abuse and Pregnancy Work Group. Townsend received his Bachelor of Arts from Centre College and his M.S.S.W. from the Kent School of Social Work at the University of Louisville.

Publicly Funded Substance Abuse Treatment Programs

Outpatient services are provided by all of the regional programs below in most of the counties served. Non-medical detoxification, residential, transitional and outpatient methadone maintenance are listed specifically where provided. In some cases the facilities are operated by a sub-contracting agency. Information may be received by a telephone call to the regional agency central office listed, unless another phone number is listed.

Region 01 – Four Rivers Behavioral Health
(Ballard, Calloway, Carlisle, Fulton, Graves, Hickman, Livingston, McCracken, Marshall)

P.O. Box 7287, Paducah, KY 42002-7287
Phone: (270) 442-7121

Residential Facilities:
Joseph L. Friedman Substance Abuse Center, transitional living, Paducah
William H. Fuller Substance Abuse Center, residential, Mayfield

Region 02 – Pennyroyal Mental Health Mental Retardation Board, Inc.
(Caldwell, Christian, Crittenden, Hopkins, Lyon, Muhlenberg, Todd, Trigg)

1507 South Main Street, P.O. Box 614, Hopkinsville, KY 42241-0614
Phone: (270) 886-2205

Residential Facilities:
Youth Recovery Center, transitional living for adolescent males, Hopkinsville
VOLTA, residential, Hopkinsville, operated by the Department for Mental Health and Mental Retardation Services. Phone: (270) 886-4431 Ext. 406

Region 03 – River Valley Behavioral Health
(Daviess, Hancock, Henderson, McLean, Ohio, Union)

Cigar Factory Complex, 1100 Walnut Street, P.O. Box 1637, Owensboro, KY 42302-1637
Phone: (270) 689-6500

Residential Facilities:
Regional Addiction Resources, residential, Henderson

Region 04 – Lifeskills, Inc.
(Allen, Barren, Butler, Edmonson, Hart, Logan, Metcalfe, Monroe, Simpson, Warren)

922 State Street, P.O. Box 6499, Bowling Green, KY 42102-6499
Phone: (270) 843-4382

Residential Facilities:
Park Place, residential, Bowling Green

Region 05 – Communicare, Inc.
(Breckinridge, Grayson, Hardin, Larue, Marion, Meade, Nelson, Washington)

1311 North Dixie Avenue, Elizabethtown, KY 42701
Phone: (270) 765-2605

Residential Facilities:
Communicare Recovery Center, residential, Elizabethtown

Region 06 – Seven Counties Services, Inc.
(Bullitt, Henry, Jefferson, Oldham, Shelby, Spencer, Trimble)

101 West Muhammad Ali Blvd, Louisville, KY 40202
Phone: (502) 589-8600

Residential Facilities:
Jefferson Alcohol and Drug Abuse Center (JADAC), residential, Louisville
Freedom House, transitional living for women with children, Louisville
The Healing Place for Women, detoxification for women, Louisville
Lighthouse Adolescent Recovery Center, residential for adolescents, Louisville
Renaissance House Women's Prison Aftercare Program, transitional living for women, Louisville
The Healing Place, detoxification for men, Louisville
Third Step Program, transitional living for men, Louisville
University Hospital Dual Diagnosis Holding Unit, detoxification, Louisville
Kentucky Correctional Institute for Women, prison residential for women, PeeWee Valley
Central State Hospital Dual Diagnosis Unit, residential for MH/SA diagnoses, Louisville,
Phone: (502) 245-4121

continued

Publicly Funded Substance Abuse Treatment Programs

Outpatient Methadone Maintenance:
Methadone/Opiate Rehabilitation and Education Center (MORE), Louisville
Phone: (502) 574-6131

Region 07 – Northkey Community Care
(Boone, Campbell, Carroll, Gallatin, Grant, Kenton, Owen, Pendleton)

P.O. Box 2680, Covington, KY 41012
Phone: (606) 331-6505

Residential Facilities:
Women's Residential Addictions Program (WRAP), residential for women, Covington
Droege House, residential for men, Covington

Region 08 – Comprehend, Inc.
(Bracken, Fleming, Lewis, Mason, Robertson)

611 Forest Ave., Maysville, KY 41056
Phone: (606) 564-4016

Region 10 – Pathways, Inc.
(Bath, Boyd, Carter, Elliott, Greenup, Lawrence, Menifee, Montgomery, Morgan, Rowan)

P.O. Box 790, Ashland, KY 41105-0790
Phone: (606) 329-8588

Residential Facilities:
Hillcrest Hall, residential for adolescent males, Mount Sterling
Withdrawal Unit, detoxification, Ashland

Region 11 – Mountain Comprehensive Care
(Floyd, Johnson, Magoffin, Martin, Pike)

150 South Front Avenue, Prestonsburg, KY 41653-5340
Phone: (606) 886-8572

Residential Facilities:
Layne House, residential, Prestonsburg

Region 12 – Kentucky River Community Care, Inc.
(Breathitt, Knott, Lee, Leslie, Letcher, Owsley, Perry, Wolfe)

P.O. Box 794, Jackson, KY 41339
Phone: (606) 666-9006

Residential Facilities:
Next Step, residential, Jackson

Region 13 – Cumberland River Regional Mental Health Mental Retardation Board, Inc.
(Bell, Clay, Harlan, Jackson, Knox, Laurel, Rockcastle, Whitley)

American Greeting Card Road, P.O. Box 568, Corbin, KY 40702
Phone: (606) 528-7010

Residential Facilities:
Independence House, residential and transitional living for women, Corbin
Crossroads House, residential and transitional living for men, London

Region 14 – Lake Cumberland Regional Mental Health Mental Retardation Board, Inc. d.b.a. The Adanta Group
(Adair, Casey, Clinton, Cumberland, Green, McCreary, Pulaski, Russell, Taylor, Wayne)

The Adanta Group, 259 Parkers Mill Road, Somerset, KY 42501
Phone: (606) 670-4782

Region 15 – Bluegrass Regional Mental Health Mental Retardation Board, Inc.
(Anderson, Bourbon, Boyle, Clark, Estill, Fayette, Franklin, Garrard, Harrison, Jessamine, Lincoln, Madison, Mercer, Nicholas, Powell, Scott, Woodford)

P.O. Box 11428, Lexington, KY 40575
Phone: (606) 253-1686

Residential Facilities:
Bluegrass East Treatment for Addictions (BETA), residential and transitional living, Frankfort
Charles I. Schwartz Chemical Dependency Treatment Center, detoxification and residential, Lexington
Shepherds House, transitional living for men, Lexington
Chrysalis House, transitional living for women, Lexington
Chrysalis Family Program, transitional living for women and children, Lexington
Hope Center Recovery Program, detoxification, Lexington

Outpatient Methadone Maintenance:
Narcotics Addiction Program, Lexington

Addiction Is A Brain Disease, *And It Matters*

by Alan I. Leshner

Scientific advances over the past 20 years have shown that drug addiction is a chronic, relapsing disease that results from the prolonged effects of drugs on the brain. As with many other brain diseases, addiction has embedded behavioral and social-context aspects that are important parts of the disorder itself. Therefore, the most effective treatment approaches will include biological, behavioral, and social-context components. Recognizing addiction as a chronic, relapsing brain disorder characterized by compulsive drug seeking and use can impact society's overall health and social policy strategies and help diminish the health and social costs associated with drug abuse and addiction.

Dramatic advances over the past two decades in both the neurosciences and the behavioral sciences have revolutionized our understanding of drug abuse and addiction. Scientists have identified neural circuits that subsume the actions of every known drug of abuse, and they have specified common pathways that are affected by almost all such drugs. Researchers have also identified and cloned the major receptors for virtually every abusable drug, as well as the natural ligands for most of those receptors. In addition, they have elaborated many of the biochemical cascades within the cell that follow receptor activation by drugs. Research has also begun to reveal major differences between the brains of addicted and nonaddicted individuals and to indicate some common elements of addiction, regardless of the substance.

That is the good news. The bad news is the dramatic lag between these advances in science and their appreciation by the general public or their application in either practice or public policy settings. There is a wide gap between the scientific facts and public perceptions about drug abuse and addiction. For example, many, perhaps most, people see drug abuse and addiction as social problems, to be handled only with social solutions, particularly though the criminal justice system. On the other hand, science has taught that drug abuse and addiction are as much health problems as they are social problems. The consequence of this gap is a significant delay in gaining control over the drug abuse problem.

Part of the lag and resultant disconnection comes from the normal delay in transferring any scientific knowledge into practice and policy. However, there are other factors unique to the drug abuse arena that compound the problem. One major barrier is the tremendous stigma attached to being a drug user or, worse, an addict. The most beneficial public view of drug addicts is as victims of their societal situation. However, the more common view is that drug addicts are weak or bad people, unwilling to lead moral lives and to control their behavior and gratifications. To the contrary, addiction is actually a chronic, relapsing illness, characterized by compulsive drug seeking and use. The gulf in implications between the "bad person" view and the "chronic illness sufferer" view is tremendous. As just one example, there are many people who believe that addicted individuals do not even deserve treatment. This stigma, and the underlying moralistic tone, is a significant overlay on all decisions that relate to drug use and drug users.

Another barrier is that some of the people who work in the fields of drug abuse prevention and addiction treatment also hold ingrained ideolo-

gies that, although usually different in origin and form from the ideologies of the general public, can be just as problematic. For example, many drug abuse workers are themselves former drug users who have had successful treatment experiences with a particular treatment method. They therefore may zealously defend a single approach, even in the face of contradictory scientific evidence. In fact, there are many drug abuse treatments that have been shown to be effective through clinical trials.[1,2] These difficulties notwithstanding, I believe that we can and must bridge this informational disconnection if we are going to make any real progress in controlling drug abuse and addiction. It is time to replace ideology with science.

Drug Abuse and Addiction as Public Health Problems

At the most general level, research has shown that drug abuse is a dual-edged health issue, as well as a social issue. It affects both the health of the individual and the health of the public. The use of drugs has well-known and severe negative consequences for health, both mental and physical. But drug abuse and addiction also have tremendous implications for the health of the public, because drug use, directly or indirectly, is now a major vector for the transmission of many serious infectious diseases — particularly acquired immunodeficiency syndrome (AIDS), hepatitis, and tuberculosis — as well as violence. Because addiction is such a complex and pervasive health issue, we must include in our overall strategies a committed public health approach, including extensive education and prevention efforts, treatment and research.

Science is providing the basis for such public health approaches. For example, two large sets of multisite studies[3] have demonstrated the effectiveness of well-delineated outreach strategies in modifying the behaviors of addicted individuals that put them at risk for acquiring the human immunodeficiency virus (HIV), even if they continue to use drugs and do not want to enter treatment. This approach runs counter to the broadly held view that addicts are so incapacitated by drugs that they are unable to modify any of their behaviors. It also suggests a base for improved strategies for reducing the negative health consequences of injection drug use for the individual and for society.

What Matters in Addiction

Scientific research and clinical experience have taught us much about what really matters in addiction and where we need to concentrate our clinical and policy efforts. However, too often the focus is on the wrong aspects of addiction, and efforts to deal with this difficult issue can be badly misguided.

Any discussions about psychoactive drugs inevitably turns to the question of whether a particular drug is physically or psychologically addicting. In essence, this issue revolves around whether or not dramatic physical withdrawal symptoms occur when an individual stops taking a drug, what is typically called physical dependency by professionals in the field. The assumption that often follows is that the more dramatic the physical withdrawal symptoms, the more serious or dangerous the drug must be.

This thinking is outdated. From both clinical and policy perspectives, it does not matter much what physical withdrawal symptoms, if any, occur. First, even the florid withdrawal symptoms of heroin addiction can now be easily managed with appropriate medication. Second, and more important, many of the most addicting and dangerous drugs do not produce severe physical symptoms upon withdrawal. Crack cocaine and methamphetamine are clear examples: Both are highly addicting, but cessation of their use produces few physical withdrawal symptoms, certainly nothing like the physical symptoms accompanying alcohol or heroin withdrawal.

What does matter tremendously is whether or not a drug causes what we now know to be the essence of addiction: compulsive drug seeking and use, even in the face of negative health and social consequences.[4] These are the characteristics that ultimately matter most to the patient and are where treatment efforts should be directed. These behaviors are also the elements responsible for the massive health and social problems that drug addiction brings in its wake.

Addiction Is a Brain Disease...

Although each drug that has been studied has some idiosyncratic mechanisms of addiction, virtually all drugs of abuse have common effects, either direct or indirectly, on a single pathway deep within the brain. This pathway, the mesolimbic reward system, extends from the ventral tegmentum to the nucleus accumbens, with projections to areas such as the limbic system and the orbitofrontal cortex. Activation of this system appears to be a common element in what keeps drug users taking drugs. This activity is not unique to any one

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drug; all addictive substances affect this circuit.[5]

Not only does acute drug use modify brain function in critical ways, but prolonged drug use causes pervasive changes in brain function that persist long after the individual stops taking the drug. Significant effects of chronic use have been identified for many drugs at all levels: molecular, cellular, structural, and functional.[6,7] The addicted brain is distinctly different from the nonaddicted brain, as manifested by changes in brain metabolic activity, receptor availability, gene expression, and responsiveness to environmental cues. Some of these long-lasting brain changes are idiosyncratic to specific drugs, whereas others are common to many different drugs.[6-9] The common brain effects of addicting substances suggest common brain mechanisms underlying all addictions.[5,7,9,10]

That addiction is tied to changes in brain structure and function is what makes it, fundamentally, a brain disease. A metaphorical switch in the brain seems to be thrown as a result of prolonged drug use. Initially, drug use is a voluntary behavior, but when that switch is thrown, the individual moves into the state of addiction characterized by compulsive drug seeking and use.[11]

Understanding that addiction is, at its core, a consequence of fundamental changes in brain function means that a major goal of treatment must be either to reverse or to compensate for those brain changes. These goals can be accomplished through either medications or behavioral treatments [behavior treatments have been successful in altering brain function in other psychobiological disorders[12]]. Elucidation of the biology underlying the metaphorical switch is key to the development of more effective treatments, particularly antiaddiction medications.

...But Not Just a Brain Disease

Of course, addiction is not that simple. Addiction is not just a brain disease. It is a brain disease for which the social contexts in which it has both developed and is expressed are critically important. The case of the many thousands of returning Vietnam war veterans who were addicted to heroin illustrates this point. In contrast to addicts on the streets of the United States, it was relatively easy to treat the returning veterans' addictions. This success was possible because they had become addicted while in a setting almost totally different from the one to which they had returned. At home in the United States, they were exposed to few of the conditioned environmental cues that had initially been associated with their drug use in Vietnam. Exposure to conditioned cues can be a major factor in causing persistent or recurrent drug cravings and drug use relapses even after successful treatment.[13]

The implications are obvious. If we understand addiction as a prototypical psychobiological illness, with critical biological, behavior, and social-context components, our treatment strategies must include biological, behavioral, and social-context elements. Not only must the underlying brain disease be treated, but the behavioral and social cue components must also be addressed, just as they are with many other brain diseases, including stroke, schizophrenia, and Alzheimer's disease.

A Chronic, Relapsing Disorder

Addiction is rarely an acute illness. For most people, it is a chronic, relapsing disorder. Total abstinence for the rest of one's life is a relatively rare outcome from a single treatment episode. Relapses are more the norm. Thus, addiction must be approached more like other chronic illnesses — such as diabetes and chronic hypertension — than like an acute illness, such as a bacterial infection or a broken bone.[1] This requirement has tremendous implications for how we evaluate treatment effectiveness and treatment outcomes. Viewing addiction as a chronic, relapsing disorder means that a good treatment outcome, and the most reasonable expectation, is a significant decrease in drug use and long periods of abstinence, with only occasional relapses. That makes a reasonable standard for treatment success — as is the case for other chronic illnesses — the management of the illness, not a cure.[1,2]

Conclusion

Addiction as a chronic, relapsing disease of the brain is a totally new concept for much of the general public, for many policymakers, and, sadly, for many health care professionals. Many of the implications have been discussed above, but there are others.

At the policy level, understanding the importance of drug use and addiction for both the health of individuals and the health of the public affects many of our overall public health strategies. An accurate understanding of the nature of drug abuse and addiction should also affect our criminal justice strategies. For example, if we know that criminals are drug addicted, it is not longer reasonable to simply incarcerate them. If they have a brain disease, imprisoning them without treatment is futile. If they are left untreated, their recidivism rates to both crime and drug use are frighteningly high; however, if addicted

criminals are treated while in prison, both types of recidivism can be reduced dramatically.[14] It is therefore counterproductive to not treat addicts while they are in prison.

At an even more general level, understanding addiction as a brain disease also affects how society approaches and deals with addicted individuals. We need to face the fact that even if the condition initially comes about because of a voluntary behavior (drug use), an addict's brain is different from a nonaddict's brain, and the addicted individual must be dealt with as if he or she is in a different brain state. We have learned to deal with people in different brain states for schizophrenia and Alzheimer's disease. Recall that as recently as the beginning of this century we were still putting individuals with schizophrenia in prisonlike asylums, whereas now we know they require medical treatments. We now need to see the addict as someone whose mind (read: brain) has been altered fundamentally by drugs. Treatment required to deal with the altered brain function and the concomitant behavioral and social functioning components of the illness.

Understanding addiction as a brain disease explains in part why historic policy strategies focusing solely on the social or criminal justice aspects of drug use and addiction have been unsuccessful. They are missing at least half of the issue. If the brain is the core of the problem, attending to the brain needs to be a core part of the solution. ■

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Dr. Alan I. Leshner was appointed Director of the National Institute on Drug Abuse (NIDA) in February 1994. One of the scientific institutes of the U.S. National Institutes of Health, NIDA supports over 85% of the world's research on the health aspects of drug abuse and addiction. Prior to coming to NIDA, Dr. Leshner had been the Deputy Director of the National Institute of Mental Health since 1988. He also served as Acting Director of the NIMH from 1990 to 1992. Dr. Leshner went to NIMH from the National Science Foundation (NSF), where he held a variety of senior positions, focusing on basic research in the biological, behavioral and social sciences, and on science education. Dr. Leshner received his undergraduate degree in psychology from Franklin and Marshall College, and the M.S. and Ph. D. degrees in physiological psychology from Rutgers University. In the fall of 1996, President Clinton conferred the Presidential Distinguished Executive Rank Award on Dr. Leshner, the highest award in federal service.

The Chronicity Of Addiction

Attitudes, Relapsing Behavior, and the Brain

by Carl Leukefeld, Robert Walker, T.K. Logan, Michele Staton, and Barbara Warner

Many scientists and counselors now agree that addiction is a chronic and relapsing disorder (Institute of Medicine, 1996; Leshner, 1997; Leukefeld & Tims, 1993). This agreement is supported by recent findings from brain chemistry research which are shedding new light on our understanding of the relapsing nature of addiction and the interface of brain and behavior in the process. The purpose of this paper is to examine attitudes toward addiction as well as information supporting the idea that addiction is a chronic relapsing behavior which is related to brain functions.

The chronic and relapsing nature of addiction is complicated by the way different people think about addiction and respond to addiction (Leukefeld, 1996). For example, substance abuse treatment providers are generally concerned with helping alcohol and drug abusers stop using substances. Police and law enforcement officials, however, look at the drug problem differently. Their focus is on reducing and stopping crimes related to drug use and stopping the sale of illegal drugs. Their policies include new minimum/ maximum sentencing laws, resulting in the crowding of our jails and prisons. From an educator's perspective, the focus is on addiction as a behavior problem. Teachers are interested in developing and delivering drug education and prevention programs. However, when school officials are asked about drug use, many deny the possibility that there is a drug problem in their schools, as shown by the frequent display of Drug Free Zone signs.

It is left to policymakers to reconcile different approaches to thinking about addiction when allocating scarce resources to try to solve the problem (Leukefeld, 1996). Too often, however, policymakers focus on "quick fixes" for addiction which do not take into account the chronic and relapsing nature of addictive behavior. Policy remedies usually parallel public opinion polls. For example, as the public's attitudes towards drug use have become more conservative, policymakers have been quick to change emphasis from treating drug abusers to law enforcement strategies. At the same time, public health officials, when responding to the spread of HIV/AIDS, have become more focused on harm reduction, advocating the distribution of needles and condoms, together with giving advice on the importance of abstinence to people who inject drugs. The public health focus is to reduce the spread of HIV/AIDS among injectors, because they make up about one-third of all persons with AIDS and are a major source leading to the heterosexual spread of HIV, a serious and expensive problem. The public's perception of which approach is most effective is always an important factor in shaping public policy. This ongoing debate on how best to deal with addiction and related problems continues to influence public perception and policy.

Addiction as a Brain Disease

Current thinking among scientists has been summarized by Alan Leshner, Director of the National Institute on Drug Abuse (Leshner, 1997):

> Dramatic advances over the past two decades in both the neurosciences and the behavioral sciences have revolutionized our understanding of drug abuse and addiction. Scientists have identified neural circuits that are involved in the actions of

every known drug of abuse, and they have specified common pathways that are affected by almost all such drugs. Research has also begun to reveal major differences between the brains of addicted and nonaddicted individuals and to indicate some common elements of addiction, regardless of the substance.

Dr. Leshner adds that there is a dramatic gap between science, the general public, and public policy since many see drug abuse as a social problem, which is to be handled with social solutions, particularly by the criminal justice system.

The Decade of the Brain (as designated by Congress in House Joint Resolution 174) has generated increased research on the neurochemistry and brain structures involved in addiction. The study of genetics has also expanded knowledge about the heritability of alcoholism and other addictions (Anthenelli & Schuckit, 1997). This research suggests a two-fold aspect to the biology of addiction: (1) heritable susceptibility to addiction; and (2) changes in brain chemistry due to long-term exposure (Gardner, 1997; Nestler & Aghajanian, 1997). These changes in brain chemistry are associated with craving (Koob & Le Moal, 1997). Further, prolonged substance use can cause changes in brain function even long after the person has stopped using (Hyman, 1966; Nestler, 1996; Melega, 1997). These changes can be observed through the use of positron emission tomography (PET) and single photon emission computed tomography (SPECT) (Abi-Dargham, et al., 1998).

Understanding brain disease and addiction can moderate a moralistic view of addiction. One consequence of research on the disease model is to focus treatment on reversing or compensating for these changes in brain function (Leshner, 1998) using medications or behavioral treatments (Baxter, 1996). These problems in brain function require more than medical treatment. Dr. Leshner (1998) goes on to say that even with an understanding of addiction as a brain disease, treatment must include biological, behavioral, and social elements.

The disease model has been criticized because it is "used" by alcoholics and drug users to refuse to take responsibility for their drinking and drugging behaviors since a disease cannot be "controlled."

Bio/Psycho/Social/Spiritual Approach

Drug and alcohol treatment providers generally use a bio/psycho/social model which has roots in alcohol treatment (Wallace, 1989). This model is used by clinicians to bridge the disease model of alcoholism, the 12-Step or self-help group approach, including Alcoholics Anonymous (AA) and Narcotics Anonymous (NA), with behavioral-based and learning theory based approaches developed largely by psychologists and social psychologists. This approach provides a more comprehensive way of thinking about addiction which incorporates the interaction of brain, behavior, and environment.

A model that has been used to orient educational and training activities in Kentucky expands the bio/psycho/social framework with the addition of spirituality. The bio/psycho/social/spiritual approach (Leukefeld & Leukefeld, 1999) presents possible pathways to conceptualize addiction as an interaction of behavior, social factors, spirituality, and biology (brain). This bio/psycho/social/spiritual approach includes four possible pathways to describe addiction:

1. *Biology or genetic* pathways include heritability and biologically conditioned aspects of addiction (Cloninger, et al, 1999; Anthenelli & Schuckett, 1997) which is one foundation for the disease model. The disease model has been criticized because it is "used" by alcoholics and drug users to refuse to take responsibility for their drinking and drugging behaviors since a disease cannot be "controlled."

2. *Psychological* pathways incorporate individual characteristics that contribute to motivation to use and abuse drugs, expectancies to use, and personality factors that can be assessed. For example, recent research focuses on identifying individual "risk" and "protective" factors (Hawkins, et al, 1992). However, it is important to keep in mind that a risk factor for one person may be a protective factor for another.

3. *Social and environment* pathways include laws, culture, familial norms, customs, peer association, and moral consequences that have been associated in the literature with social learning (Bandura, 1977).

4. *Spirituality* pathways incorporate anecdotal information and studies which indicate that spirituality (Benson, 1997) and religiosity (Gorsuch, 1995) are related

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behaviors. Although the literature is fairly consistent in presenting the idea that spirituality is related to recovery, it is not without controversy. Controversy focuses especially on the relationship of spirituality and wellness (Tessman & Tessman, 1997), and the idea that religiosity is a protective factor for not using drugs (Adlaf & Smart, 1985; Jessor & Jessor, 1977).

Addiction Treatment

Addiction treatment for incarcerated federal offenders formally began with two United States Public Health Service Hospitals. The first facility was opened in Lexington, Kentucky in 1935. It is interesting that the need for treatment was recognized by the Director of the Federal Bureau of Prisons, who urged Congress to establish Narcotic Farms in Kentucky, and later in Texas. These facilities evolved from farms to hospitals to U.S. Public Health Service clinical research centers and are now federal prisons (Leukefeld, & Tims, 1993).

Drug abuse treatment in corrections has been influenced by the Therapeutic Community movement, which incorporates former drug users who provide a structured therapeutic environment. However, drug abuse treatment in the criminal justice system is limited. Treatment for drug abusers in jails is even more limited, which should be expected given the brief length of stay (Peters & May, 1992). Drug treatment in criminal justice settings is complicated by both policy and science. The science may be easier to describe than related policy issues, but it is also complicated (Leukefeld & Tims, 1993). As Lipton, et al. (1992) suggest, the backlash of anti-rehabilitation is based on the Martinson report (1974) which concluded, after reviewing available research from correctional rehabilitation studies, that rehabilitation efforts did not work. Although this interpretation was subsequently reversed after additional study, the report's influence as well as the aftermath for drug abuse treatment in prisons and jails was enormous. New treatment programs were not opened, and treatment and rehabilitation programs were also terminated until the late 1980's (Murray, 1992).

Drug abuse treatment in corrections has been influenced by the Therapeutic Community movement, which incorporates former drug users who provide a structured therapeutic environment.

The current reemphasis on drug abuse treatment in the criminal justice system, particularly in prisons, appears to be anchored in the need to do something about the large number of drug abusers in prisons. This is complemented with recent research findings that drug abuse treatment is effective (Institute of Medicine, 1997; Hubbard, et al., 1989; Hubbard, et al., 1997). It is important to stress the fact that the effectiveness of drug abuse treatment is specifically related to the length of time an addicted individual remains in drug abuse treatment, regardless of the type of treatment. However, along with this recognition must come the realization that drug abuse is both chronic and relapsing once a person is brain addicted.

The chronicity and relapsing aspects of drug abuse can make the effectiveness of drug abuse treatment difficult for many to understand. Viewed from a health perspective, treatment should be followed by "cure" and no drug abuse. Viewed from a correctional perspective, recidivism should be reduced coupled with no drug abuse and no crime. These goals are compatible but are frequently implemented differently, often causing tension without meaning to do so. There is also criticism about the

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limitations of drug abuse treatment in spite of the research, which has consistently supported the effectiveness of such treatment (Institute of Medicine, 1996; Hubbard, et al., 1989; Hubbard, et al., 1997), specifically when combined with criminal justice sanctions (Leukefeld & Tims, 1986). The interest in addictions treatment incorporates program data in criminal justice settings which have shown promise such as the *Stay'n Out Program* in New York (Wexler, Falkin, Lipton, & Rosenblum, 1992), the *Cornerstone Program* in Oregon (Field, 1985), the *Amity Program* in California (Wexler & Graham, 1992), and the *Key Program* in Delaware (Inciardi, et al., 1997).

Concluding Remarks

Understanding addiction and drug abuse as a chronic, relapsing brain disorder affects criminal justice strategies (Leshner, 1998). For example, if we know that criminals are drug addicted, they should not be incarcerated without treatment, and that, if treated while in prison, recidivism can be reduced (Inciardi, et al, 1997; Wexler & Lipton, 1993). To be most effective, addiction treatment strategies should address bio/psycho/social/spiritual pathways to addiction rather than treatment which is "one size fits all." In addition, criminal justice treatment must focus on drug abusers who commit crimes to get money for their own drug use rather than criminals who use drugs. This focus is important in order to maximize the effectiveness of treatment and to capitalize on individual motivation, since criminal dealers are usually not addicted but are occasional users. Finally, in addition to making treatment available and targeting addicted drug abusers who commit crimes, a critical issue is matching treatment/intervention to individual needs, readiness for intervention, and motivation which are keys that are now making drug courts successful (Belenko, 1998). ■

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continued

Carl Leukefeld, D.S.W., is a Professor of Psychiatry and Behavioral Science and Director for the Center on Drug and Alcohol Research at the University of Kentucky. He received his doctorate at the Catholic University of America and his master's degree at the University of Michigan. Before coming to the University of Kentucky, he was with the National Institute on Drug Abuse in various clinical, management and scientific capacities. He has co-edited and written books and monographs and has published in the areas of treatment and prevention of drug and alcohol abuse.

Robert Walker, M.S.W., L.C.S.W., is Assistant Professor of Psychiatry at the University of Kentucky Center on Drug and Alcohol Research. He received his MSW degree from the University of Kentucky in 1979 and was the Center Director of the Bluegrass East Comprehensive Care Center in Lexington, KY for 20 years.

Dr. T.K. Logan has a Ph.D. in applied psychology and is currently an Assistant Professor at the University of Kentucky, Center on Drug and Alcohol Research. She has been funded by the National Institute on Drug Abuse (NIDA) to examine drug use and HIV risk behavior. Dr. Logan also serves as the principal investigator on a number of projects evaluating the Kentucky Drug Court programs and she is a co-principal investigator on two NIDA funded grants examining drug use and other factors among criminal justice populations.

Michele Staton, M.S.W, C.S.W., is a Research Coordinator at the University of Kentucky, Center on Drug and Alcohol Research. She is the study director for two National Institute of Health (NIH) funded projects, one examining the health service utilization of incarcerated male and female substance abusers, and the other investigating Drug Court retention through the implementation of an enhanced employment intervention component. Ms. Staton has published in the area of substance abuse and HIV risk behavior among adolescents. Her research interests include substance abuse, prison-based treatment, health service utilization, rural treatment access, and spirituality.

Barbara D. Warner, Ph.D., is an Assistant Professor at the Center on Drug and Alcohol Research at the University of Kentucky. Presently, Dr. Warner is examining drug use and its associated outcomes. Her research examines causes of racial differences in HIV infection among chronic drug users, individual level variables associated with changes in HIV risk behaviors after exposure to a prevention intervention, and urban-rural differences in alcohol and drug abuse and treatment in a sample of incarcerated males.

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